

PETERHEAD LOW CARBON CCGT POWER STATION PROJECT

Welcome

SSE Thermal and partners Equinor are seeking to develop and operate a new low carbon combined cycle gas turbine (CCGT) power station with a carbon capture plant (CCP) at Peterhead. This project, which will be known as Peterhead Low Carbon CCGT Power Station Project, or 'Peterhead CCS' (hereafter referred to as 'the Project'), will be located on land at the existing Peterhead Power Station in Aberdeenshire. The Project will have a generating capacity of up to 910MW and will utilise existing connections such as cooling water, gas pipeline and grid connection.

In line with both companies' vision and commitment to a net-zero future, the plant will use natural gas as its fuel and will be fitted with a carbon capture plant to remove the CO₂ from its emissions.

In order to develop the Project, we are preparing a Section 36 consent application, which we will submit to the Scottish Government Energy Consents Unit (ECU). Successful development of the project will also be subject to support for the shared CO_2 infrastructure from the UK Government through its industrial clusters process.

About SSE Thermal

SSE Thermal is part of the FTSE-listed SSE plc, one of the UK's broadest-based energy companies.

Over the last 20 years, SSE has invested over £20bn to deliver industry-leading energy generation projects, including offshore wind, onshore wind, gas generation, energy networks and gas storage projects, including investing millions of pounds to develop carbon capture and storage (CCS) projects. It operates six of the most flexible and efficient power stations in the UK and Ireland and holds around 40% of the UK's conventional gas storage capacity.

By building on established skills in asset management and project development, SSE Thermal's vision is to become the leading generator of flexible thermal energy in a zero-carbon world. Find out more at www.ssethermal.com.

About Equinor

Equinor has been operating in the UK for over 35 years and is the country's leading energy provider, supplying natural gas, oil and electricity. Headquartered in Norway, the company aims to reach net zero emissions globally by 2050. In the UK, Equinor operates one offshore oil field and three offshore wind farms including Hywind Scotland, the world's first floating wind farm whose operations and maintenance base is located in Peterhead. Equinor is also a leader in carbon capture & storage and hydrogen, developing the H2H Saltend hydrogen production plant at the heart of the Zero Carbon Humber alliance, and partnering in the Net Zero Teesside project and the Northern Endurance Partnership. Find out more at www.equinor.co.uk.

SSE at Peterhead

SSE Thermal has an existing site at Peterhead in Aberdeenshire, known as Peterhead Power Station. The 1180MW station became operational in 1982.

In the 2000s, the plant underwent a major repowering project to convert it into an efficient CCGT power station. At the present time, Peterhead is the largest power station of its kind in Scotland and SSE's only Thermal plant in Scotland, playing a crucial role in supporting the system and providing reliable and flexible generation.

The Need for the Project and its Benefits

The UK has legislated to cut national greenhouse gas emissions to Net Zero by 2050. This will require a major transition in how we generate and use energy.

Published in November 2020, the UK Government's ten point plan ¹ sets out the approach government will take to build back better, support green jobs, and accelerate our path to net zero.

The Climate Change Committee ² (CCC) has stated the need to invest in low carbon technologies and that the roll out of carbon capture and storage is a key action in achieving Net Zero.

We believe efficient gas-fired generation is essential to delivering Net Zero emissions by 2050, providing the flexibility needed to back up a system based on renewables. The Project will only be built with a clear route to decarbonisation, by equipping it with post-combustion CCS technology.

The UK Government recently announced its ambition for the UK to become a world-leader in CCS technology, with a target to remove 10MT of CO_2 by 2030. Scotland has committed to being carbon Net Zero by 2045.

The Project would safeguard thermal energy generation in the area and support long-term direct and indirect local employment, as well as the economic benefits that it will bring to the region.

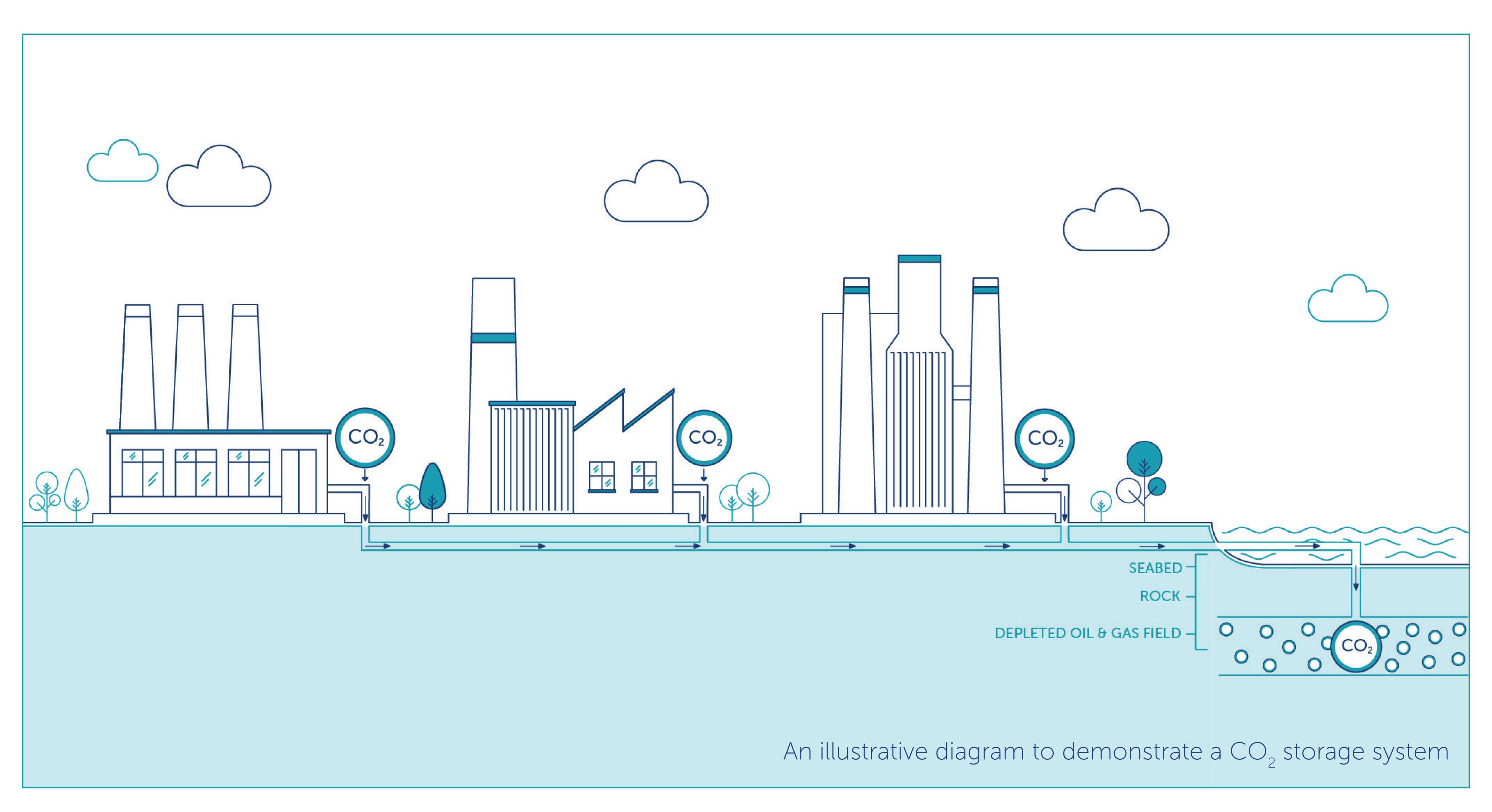
About the project at Peterhead

The Project will consist of one combined cycle gas turbine (CCGT) unit with a total output of up to 910MW electrical output. The CCGT comprises one high efficiency gas turbine and associated Heat Recovery Steam Generator (HRSG, a type of boiler) and steam turbine.

The CCGT will combust natural gas to drive a gas turbine, which is connected to a generator producing electricity. A by-product of this process is usable heat which remains in the gas turbine; this is passed into a HRSG which makes steam to generate additional electricity via a steam turbine.

The Project will also include a post combustion carbon capture plant (CCP), allowing for the capture and compression of carbon dioxide; this will be connected to a carbon dioxide transport pipeline known as the Acorn Carbon Capture and Storage (CCS) project, under development by Pale Blue Dot Energy. The destination for the carbon dioxide transport and storage system is subject to a separate study and consent application by Pale Blue Dot Energy.

What is Carbon Capture and Storage?



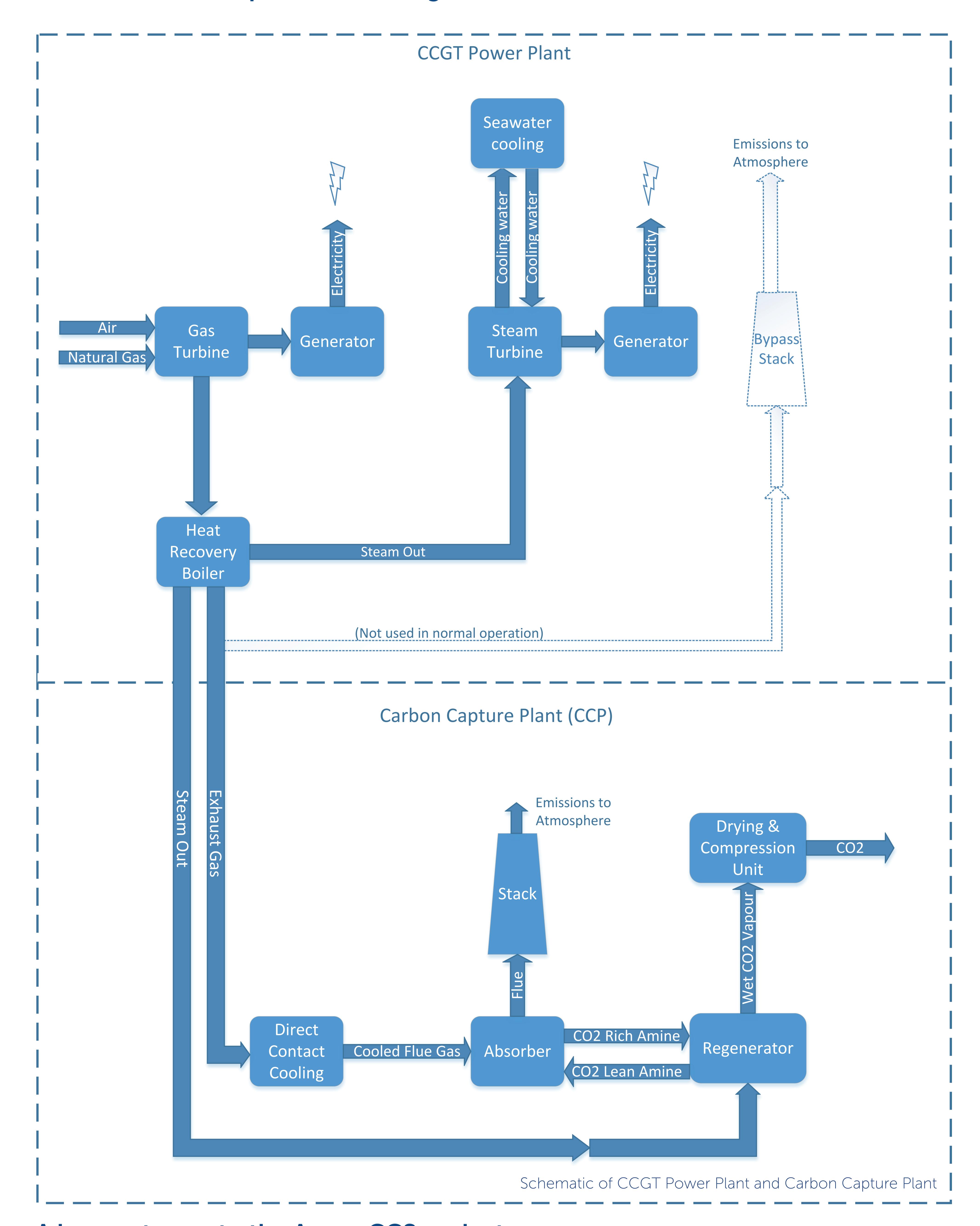
Carbon capture and storage (CCS) is a technology that can capture at least 90% of the carbon dioxide (CO_2) emissions produced from the use of fossil fuels in electricity generation and industrial processes, preventing the CO_2 from entering the atmosphere.

The CCS chain consists of three parts; capturing the carbon dioxide, transporting the CO_2 and securely storing the carbon dioxide emissions underground, in depleted oil and gas fields or deep saline aquifer formations.

¹ You can find further information by visiting https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution

² Committee on Climate Change (2020), The Sixth Carbon Budget – The UK's Path to Net Zero. Available at: https://www.theccc.org.uk/publication/sixth-carbon-budget/

What is Carbon Capture and Storage? (Continued)



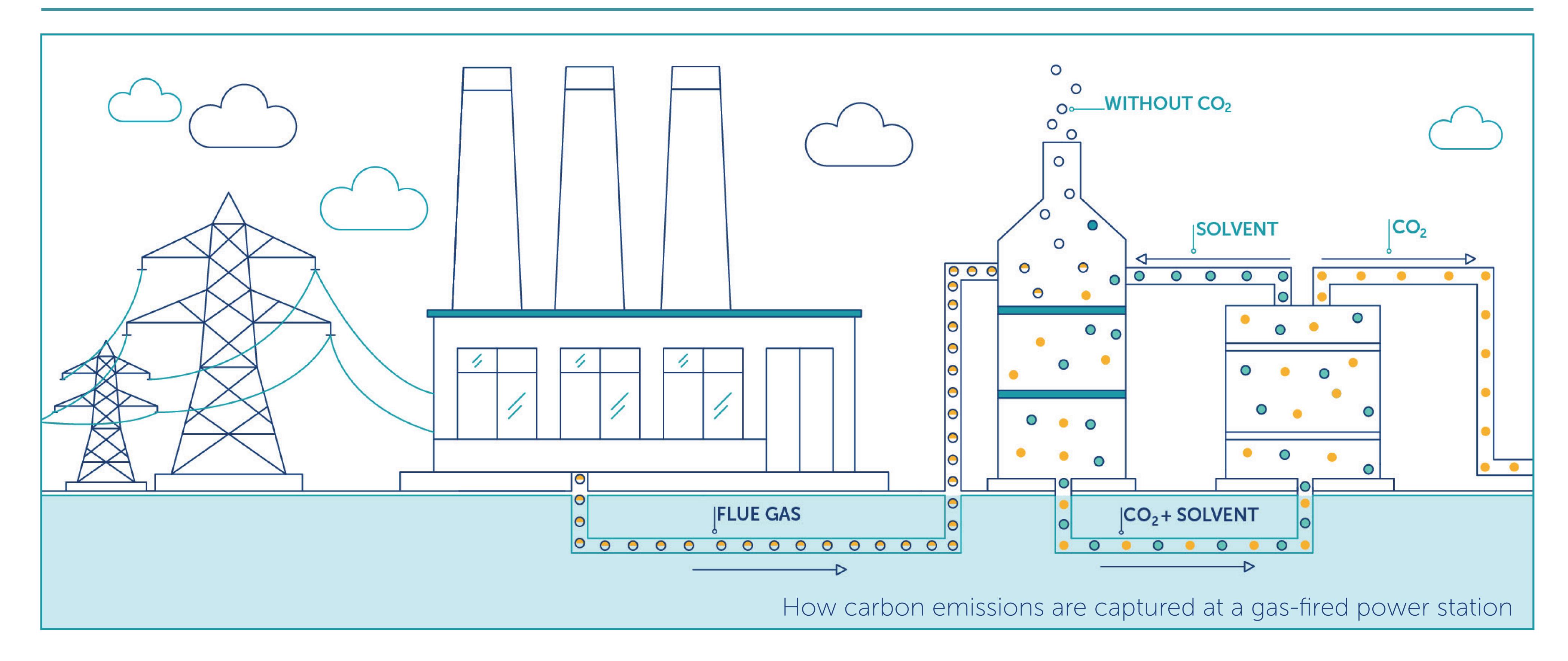
A key customer to the Acorn CCS project

Situated on the coast, the Peterhead site is well-placed for CCS technology, with access to essential transport and storage infrastructure.

It is proposed that the Project will be a key customer to the Acorn Carbon Capture and Storage (CCS) project. This project is led by Pale Blue Dot Energy with their partners Harbour Energy and Shell, with funding support from the UK and Scottish Governments, and the European Union.

Based at the St. Fergus gas terminal in North East Scotland, the Acorn CCS Project will make use of existing gas pipelines and infrastructure to transport CO_2 directly to the Acorn CO_2 storage site below the Central North Sea for safe storage. The Acorn CCS Project is subject to a separate planning consent application and will be undertaken by the Acorn Project partners.

For more information on this project, please visit https://theacornproject.uk/



Next Steps

As a responsible developer we aim to create a positive impact and add value to the local area through our projects.

We have begun to carry out on-site surveys of ecological interests, safely and in line with government requirements in relation to coronavirus. We also have a range of existing environmental information from our operation of the existing Peterhead Power Station.

We will be working over the coming months to carry out further environment assessment works and develop our proposals further.

Formal consultation

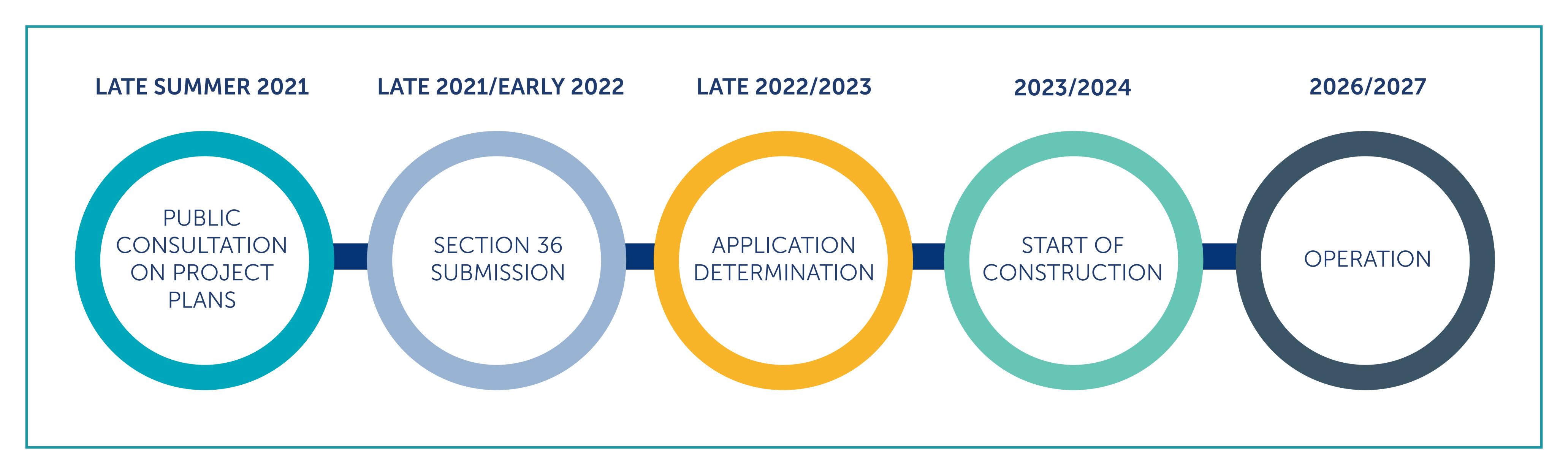
We are committed to providing safe, convenient and clear information on the project and we will be holding a further, full formal public consultation later in the year.

At this time, more developed and detailed plans will be shared, along with an overview of the Environmental Impact Assessment (EIA) work which will have identified any potential environmental impacts.

Stakeholders will have the opportunity to engage with members of the project team, in person if the coronavirus restrictions in the UK allow this at that time and feedback on the proposals will be welcomed.

Indicative Programme

It takes several years to plan and develop this type of project and there are several factors which need to be clarified and confirmed before we would be in a position to take a Final Investment Decision (FID), including obtaining planning consent. This process would take at least two years, and an FID would be some months after that. Construction would take a further three years approximately. The below diagram helps to demonstrate this.



Comments Form

To help us record your initial views and comments about the project and to improve the effectiveness of our consultation with local communities, we would be grateful if you could complete a comments form.

Your written comments will help us during the development of our proposals. Please provide any comments to us by Monday 7th June 2021.

Find out more

If you have specific questions or comments, please contact the project team using the details below:

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